

Further, LEDs are beginning to be used as a light source for the main stop lamps as well. When the population increases, perhaps this will give the agency sufficient data to support proposing such a requirement.

In accordance with 49 CFR part 552, this completes the agency's review of the petition. The agency has concluded that there is no reasonable possibility that the amendment requested by the petitioner would be issued at the conclusion of a rulemaking proceeding. Accordingly, it denies Mr. Roberts' petition.

Authority: 49 U.S.C. 30103, 30162; delegation of authority at 49 CFR 1.50 and 501.8.

Issued on: July 13, 1998.

L. Robert Shelton,

Associate Administrator for Safety Performance Standards.

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[NHTSA Docket No. 98-4027, Notice 1]

RIN 2127-AG01

Federal Motor Vehicle Safety Standards; Steering Control Rearward Displacement

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Termination of rulemaking.

SUMMARY: This document terminates a rulemaking proceeding in which the agency proposed to exclude from its standard on steering control rearward displacement air bag-equipped passenger cars and other light vehicles certified as complying with the agency's occupant crash protection standard based upon the frontal barrier crash test. The agency proposed this exclusion because the engineering need to provide a stable air bag platform in order to perform consistently during an unrestrained dynamic crash test would ensure that vehicle manufacturers design their vehicles so that there would be little steering control rearward displacement. That necessity would obviate the need for manufacturers to conduct another crash test just to certify steering control rearward displacement performance.

However, since the proposal, the agency has temporarily allowed the manufacturers to certify their vehicles to

the occupant protection standard based upon an unrestrained sled test and a restrained (or belted) barrier test. The capability of the steering column to provide a stable platform for the air bag is not tested in a sled test since no structural deformation of the structure occurs nor does the restrained occupant 30 mph barrier test adequately evaluate the platform stability since the belted dummy does not significantly load the steering assembly. NHTSA anticipates that nearly all manufacturers will certify to the unrestrained occupant protection standard based on the less rigorous sled test procedure. Therefore, the agency is terminating this rulemaking.

FOR FURTHER INFORMATION CONTACT:

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The mailing address is: National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC, 20590.

SUPPLEMENTARY INFORMATION:

I. Background

Pursuant to the March 4, 1995 directive, "Regulatory Reinvention Initiative," from the President to the heads of departments and agencies, NHTSA undertook a review of all its regulations and directives. During the course of this review, the agency identified several regulations as potential candidates for rescission or amendment. One of these regulations was Standard No. 204, *Steering Control Rearward Displacement*. The agency concluded at that time that requiring compliance with the standard appeared to be redundant for certain vehicles, given the actions which were separately required to be taken to comply with Standard No. 208, *Occupant Crash Protection*.

Standard No. 204 specifies a dynamic crash test to measure the rearward displacement of a vehicle's steering column to ensure that the driver is not "speared" by the column. The standard specifies that the upper end of the steering column and shaft may not be displaced horizontally rearward more than 5 inches (127 mm) in a 30-mile-per-hour frontal barrier crash test. The standard applies to passenger cars and other light vehicles.

Passenger cars and light vehicles are also required to pass a dynamic test specified in Standard No. 208,

Occupant crash protection. For unrestrained occupants, Standard No. 208 requires either a frontal impact crash test into a rigid barrier at 30 mph or a dynamic sled test, with the performance measured by the impact forces on an anthropomorphic test dummy rather than by the displacement of a vehicle component. Air bags became mandatory in all passenger cars on September 1, 1997, and will be required in all light vehicles by September 1, 1998. Since March 19, 1997, it has been permissible to certify vehicles on the basis of a sled test instead of a crash test. The agency believes that the great majority of auto manufacturers are now certifying vehicles using the sled test.

On November 16, 1995, the agency published a Notice of Proposed Rulemaking, (60 FR 57565) proposing that vehicles be excluded from having to comply with Standard No. 204 if these vehicles were certified to comply with the frontal barrier crash test requirements of Standard No. 208 by means of an air bag. The basis for the proposal was that the engineering considerations that govern designing a vehicle with air bags would ensure that the vehicle would have the same performance for steering control rearward displacement as is currently required by Standard No. 204. One of the most fundamental engineering considerations when designing an air bag equipped vehicle is to provide a secure platform for the air bag. The designer must know the relative location of the air bag and the protected occupant during a crash because, if the air bag platform were moving up or down, or backward or forward during a crash, it could adversely affect air bag performance.

Since the driver's air bag is located in the steering column, the NPRM stated that the engineering measures necessary to provide a secure air bag platform will also ensure that Standard No. 204's specified performance for steering control rearward displacement is satisfied, even if the standard were no longer applicable. In case the public knew of some factors that NHTSA had not considered, NHTSA also asked for comment on whether there was any possibility that the proposed Standard No. 204 exclusion might result in an increase in injuries not protected against by Standard No. 208. The NPRM stated that the proposed rule would have minor, nonquantifiable cost savings. The public comment period closed on January 16, 1997.

Subsequent to the issuance of the NPRM on Standard No. 204, on March 19, 1997, in order to facilitate the

depowering of air bags, the agency temporarily amended Standard 208 to permit vehicle manufacturers to certify their vehicles using a sled test procedure, rather than a crash test. In the sled test, there is no possibility of steering column movement due to deformation of the vehicle structure from crash forces, regardless of how good or bad the steering column design. Although the standard still permits manufacturers to certify their vehicles using the frontal barrier crash test using an unrestrained test dummy, as specified in S5.1, as noted above, essentially all manufacturers are now using the sled test for Standard No. 208 certification. The standard still requires a belted barrier test. Currently, the agency is in the midst of developing an NPRM on improved air bags that may reinstate some form of barrier test requirement.

II. Summary of Public Comments

The agency received six comments on the proposal to exclude air bag equipped vehicles from Standard No. 204. Advocates for Highway and Auto Safety (Advocates) and Mr. Lee F. Graser (an automobile reconstructionist) were generally opposed to the proposal. The Insurance Institute for Highway Safety (IIHS), the American Automobile Manufacturers Association (AAMA), and two auto manufacturers, Volkswagen and Mitsubishi, supported the proposal. The following is a brief summary of these comments.

As noted above, two commenters disagreed with excluding these vehicles from Standard No. 204. Mr. Lee F. Graser, President of LAS-KDS Inc. (an automobile reconstructionist) commented that the current standard was "incredibly successful in removing the 'spear-like' qualities from the steering column." He based his comment on 30 years of experience in rebuilding automobiles damaged in a crash, and examining thousands of wrecked automobiles. He agreed that vehicles will continue to meet the crash test standards at 30 miles per hour, but said that in more severe (i.e., higher speed) crashes, the exclusion from the requirement will remove an important safety margin and result in the reintroduction of a hazard eliminated long ago.

Advocates was concerned that the exclusion would exacerbate a danger that it believes exists even with Standard No. 204 in place. Its main concern was the "dangers due to the proximate positioning of the drivers to the steering wheel air bag modules." It noted that short women and many older drivers must sit further forward than

other drivers to comfortably reach the steering wheel. In such cases, it stated, the distance from the air bag to the driver's chest would be 6.5 to 4.5 inches. Drivers seated in this zone could be injured by the deploying air bag. Advocates' apparent concern with this exclusion is that, without Standard No. 204, the steering column would move rearward, even closer to the driver, prior to air bag deployment. If this occurred, there would be a very forceful impact of the air bag on the driver (air bag deployment force would be greater on a driver closer to the housing).

Advocates also argued that there was no supporting data for the exclusion and therefore the agency's proposed action could be considered capricious. Advocates commented that NHTSA has no data to support the presumption that manufacturers will continue to maintain compliance with Standard No. 204 if this exclusion is provided. Advocates also suggested that NHTSA needs test data showing that vehicles that do *not* comply with Standard No. 204 could still ensure safety of small passengers and not increase the risk of exacerbating trauma from steering wheels.

Finally, Advocates noted the request for comment that NHTSA had issued on air bag-related injuries (NHTSA Docket 74-14, Notice 97, 60 FR 65554, November 9, 1995). Advocates stated that it could not understand why the agency would complicate the understanding of this complex injury issue by adding another major variable (i.e., a presumed increase in steering wheel movement).

Four commenters agreed with excluding air bag equipped vehicles from Standard No. 204. Mitsubishi concurred without substantive comment. Volkswagen concurred and commented that the exclusion would save it testing costs of about \$20,000 plus the cost of the vehicle for each car line because an extra crash test was required by Standard No. 204. It stated that the savings might be as much as \$700,000 on a new car line, because a prototype vehicle would have to be used in the testing.

Volkswagen also noted that a proposal to make a similar exclusion from the ECE version of this standard is under discussion in Europe, implying that NHTSA should adopt the proposal in the interest of harmonization.

The AAMA supported the proposal. The AAMA confirmed that for an air bag equipped vehicle, the steering column location must remain relatively stable during a Standard No. 208 barrier test to consistently meet the test requirements. It provided an analysis of NHTSA's own Standard No. 204 "indicant" test reports

for member companies: GM, Ford and Chrysler. The AAMA stated that the NHTSA indicant test data showed that the displacement was zero in most cases and well below the 5.0 inch (12.7 cm) limit in all cases. The AAMA also pointed out that, in a 1981 evaluation of the standard, the agency found that steering wheel rearward displacement was highly correlated to the vehicle's change in velocity during the crash (Delta V). "An Evaluation of Federal Motor Vehicle Safety Standards for Passenger Car Steering Assemblies", Standard No. 203—"Impact Protection for the Driver", Standard No. 204 "Rearward Column Displacement," January 1981, NHTSA Technical Report DOT HS 805 705. The agency evaluation indicated that, in crashes with a Delta V of less than 15 mph, there was virtually no rearward displacement. The AAMA did not provide any data from the motor vehicle manufacturers. It agreed that the proposal should be effective 30 days after the final rule.

The IIHS supported the proposed exclusion from Standard No. 204, stating that the current dynamic test in Standard No. 208 with an unbelted dummy is more than sufficient to limit excessive rearward steering wheel displacement in a centric crash specified by Standard No. 204. However, it was concerned that Standard No. 204's centric flat barrier crash test is inadequate, because steering control rearward displacement continues to be a problem in offset crashes. To support this offset crash concern, IIHS cited data from offset crash tests of 16 vehicles that showed rearward displacements of up to 6.7 inches (17 cm). It also provided a summary of an actual fatal offset crash which it believes might not have been fatal if the column had not moved rearward by 7.5 inches (19 cm). IIHS urged NHTSA to continue work on offset testing, and explore rulemaking on the subject.

III. Discussion of Issues

A. Don't Change a Standard That Works

Mr. Graser stated that Standard No. 204 has resulted in significant improvement in occupant protection by removing the spear-like qualities of the steering column. Advocates stated that there was no basis for the agency's presumption that motor vehicle manufacturers will maintain compliance after exclusion from Standard No. 204.

The agency agrees with Mr. Graser that designs that conform to Standard No. 204 mitigate chest injuries. The standard did accomplish its purpose,

according to the agency's analysis. In the agency's regulatory evaluation of the benefits of its steering column regulations (Standard Nos. 204 and 203, *Impact Protection for the Driver From the Steering Control System*), NHTSA estimated that the two steering column standards in tandem were cost-effective and prevented 1,300 fatalities and 23,000 nonfatal injuries per year when all automobiles complied. (Note that the agency has already excluded from Standard No. 203 vehicles that comply with Standard No. 208 using air bags because it concluded that requiring compliance with Standard No. 203 was redundant (40 FR 17992, April 24, 1975)). Therefore, Standard No. 204 did prompt some useful changes in steering column design.

The NPRM was based on the assumption that manufacturers would have to conduct a dynamic crash test with unbelted dummies for Standard No. 208, an assumption that is no longer valid.

Vehicle manufacturers must design a stable air bag platform to ensure good, repeatable performance for the air bag in a crash. In other words, steering columns must be designed to ensure the air bag mounted in the steering wheel hub will remain in a constant position relative to the driver during a crash. However, Standard No. 208's unbelted performance requirements would adequately control steering column movement only during a full-barrier crash test. Conversely, the sled test does not ensure that the steering column will be adequately designed. Additionally, the belted occupant 30 mph barrier test, which is still required, does not adequately evaluate the air bag platform stability since the belted dummy does not significantly load the steering assembly.

B. Risk of Air Bag Injury to Small Occupants

In response to Advocates' concern about negative safety impacts on smaller occupants, the agency notes that rearward displacement of the steering column may not contribute to close proximity air bag deployments because displacement and deployment may occur at different times during a crash. To illustrate, in a standard barrier test the air bag begins to deploy between 15 to 20 milliseconds after impact and is completely deployed by 50 to 60 milliseconds after impact. In these crash tests, steering column dynamic rearward displacement and steering column collapse almost always occur after completion of air bag deployment, starting at about 60 milliseconds. During a Standard No. 208 unbelted full barrier

impact compliance test, this steering column-occupant interaction is measured by the Hybrid III dummy. Therefore, excessive rearward displacement of the steering column in unbelted full barrier-type impacts would likely impact the dummy and cause a failure of the Standard No. 208 test. However, due to the wide variety of crash types in the real-world, the agency can see the potential for situations where steering column movement and air bag deployment could occur at the same time.

C. Supporting Data

In response to Advocates' complaint that NHTSA has no data to justify this proposed exclusion, NHTSA based its NPRM on an engineering analysis of the steering column design requirements implied or necessitated by the then-existing Standard No. 208 full-barrier impact requirements.

Moreover, it would have been impossible to generate the test data on non-compliant vehicles that Advocates says is necessary. Evidence indicates that all vehicle designs comply with Standard No. 204, so there are no non-complying vehicles to test. NHTSA reviewed the results of Standard No. 204 compliance tests before publishing the NPRM. The results of that review are in the docket. In that review, the agency found that in the last 28 years, there have been three cases worthy of further investigation, but no actual non-compliances. No air bag-equipped vehicle has failed this test.

The agency reviewed its 1996 calendar year information requests to vehicle manufacturers, which resulted in the submission of 36 reports of Standard No. 204 compliance tests. This 1996 sample includes 25 passenger cars and 11 light trucks. A summary of the steering column rearward displacement data from these manufacturer reports has been placed in the docket. The average value of the maximum dynamic horizontal deflection was 42 millimeters (1.6 inches). The range of horizontal deflections ranged from 0 mm (0 in.) to 99 mm (3.9 in.).

However, history may not be a guide when the assumptions are changed. NHTSA agrees with Advocates that there is no evidence that sled-tested and belted-barrier-tested vehicles will continue to comply with Standard No. 204.

D. Cost

The agency believes the cost savings that Volkswagen suggested would result from excluding vehicles from Standard No. 204 certification are overly optimistic. Vehicle manufacturers

would probably "piggyback" tests on a prototype, i.e., the single test of a prototype vehicle could include indicant tests of Standard Nos. 204, 208, 212, and 301. Therefore, computer modeling and piggyback testing would significantly reduce this cost burden, especially during the vehicle developmental phase.

E. Offset Testing Program

In response to IIHS' urging that NHTSA pursue offset testing, the agency notes that an offset testing program is part of the Standard No. 208 Upgrade program, one of the elements in NHTSA's Strategic Execution Plan. Additionally, on January 2, 1998, the Center for Auto Safety (CAS) submitted a petition for rulemaking, requesting the addition of an offset test requirement within Standard No. 208.

The agency's FY 1997 and FY 1998 appropriations included funding to work on establishing a frontal offset crash protection safety standard. NHTSA will analyze the steering column behavior in offset crashes as part of this effort. The issues raised by IIHS and CAS, of whether to include a steering column displacement restriction within the requirements of an offset test standard, will be included in the offset program decision-making process.

IV. Agency Decision

In the final rule (March 19, 1997; 62 FR 12960) enhancing manufacturers' abilities to depower air bags, NHTSA decided to allow the sled test as a temporary measure given the need to provide manufacturers with maximum flexibility to respond rapidly to the risk posed by air bag activation in low speed crashes. In the final rule's preamble, NHTSA discussed the disadvantages of the sled test as an indicator of real world performance, including the fact that the sled test does not evaluate "the steering column's energy absorbing characteristics and load bearing capability." (62 FR at 12966). Sled testing effectively removes the measurement of the stability of the steering column as a factor affecting measured levels of occupant protection performance. NHTSA has never proposed to exclude from Standard No. 204 vehicles whose certification of compliance with Standard No. 208 was based upon the sled test or the belted barrier test.

NHTSA understands that almost all the vehicle manufacturers are now certifying compliance with Standard No. 208 based on the sled test, instead of the unbelted frontal barrier test. Further, the manufacturers have

indicated that they will continue to rely on the sled test option while it remains available.

The March 19, 1997, final rule provided that the sled test option would expire on September 1, 2001. Several petitions for reconsideration have been filed requesting the agency to extend that date or to make the option permanent. NHTSA is currently considering those petitions. In addition, as part of its advanced air bag rulemaking, the agency is considering the possibility of requiring some form of barrier test.

Based on these understandings, NHTSA is terminating rulemaking to exclude from Standard No. 204 vehicles that comply with Standard No. 208. Given that the vehicle manufacturers are expected to rely on the sled test (to meet Standard No. 208 requirements) for the next several years, there is no need during that period for an exclusion from Standard No. 204 for vehicles certified to Standard No. 208 based on the barrier test. If circumstances change in the future, the agency will consider appropriate action at that time.

(Authority: 49 U.S.C. 322, 30111, 30115, 30117, and 30166; delegations of authority at 49 CFR 1.50 and 501.8)

Issued on: July 14, 1998.

L. Robert Shelton,

Associate Administrator for Safety Performance Standards.

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

Denial of Petition for Rulemaking; Federal Motor Vehicle Safety Standards

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Denial of petition for rulemaking.

SUMMARY: This document denies a petition by Whizzer Motorbike Company for rulemaking which would exclude it and other motorized bicycles from all DOT regulations. Petitioner argued that the vehicle's low speed and small size justified such exclusion. However, the agency found this conclusion unsupported and denies the petition. Motorized bicycles, which may have a maximum speed of up to 25 miles per hour and are found on the public streets, must be afforded the

same level of protection that now exists for their category under the Federal motor vehicle safety standards where they are defined as "motor driven cycles," which are "motorcycles with a motor which produces 5 brake horsepower or less."

FOR FURTHER INFORMATION CONTACT: Jere Medlin, Office of Safety Performance Standards, NHTSA (202-366-5276).

SUPPLEMENTARY INFORMATION:

Introduction

The agency wishes to use this forum to reiterate its long-standing policy on the regulatory treatment of powered bicycles.

On October 2, 1997, the Whizzer Motorbike Company of Orange, California, petitioned the Administrator of the National Highway Traffic Safety Administration (NHTSA) for "relief from meeting DOT regulations" (petitioner's emphasis). The basis of its petition was that its product is "a motor-assisted bicycle, requiring human power to start from a static position," designed to carry one person, has less than 2 horsepower, weighs "less than 60 lbs. GVWR," and "will not exceed 25 miles per hour." In Whizzer's opinion, the vehicle may be used for "very limited transportation," but "it is not practical for utility purpose other than very short distances."

NHTSA advised Whizzer on November 17, 1997, that it viewed the petition as one for rulemaking that would exclude the Whizzer and other vehicles in its class from DOT requirements. One week later, Whizzer assented to this treatment, adding the justification that its product was a nostalgia vehicle and its engine a design of 1930s technology.

Background

Over the years, NHTSA has been asked about the applicability of the Federal motor vehicle safety standards (FMVSSs) to bicycles with small motors attached. In responding to these requests, the agency has begun by deciding whether the vehicle for which an interpretation was sought was, in fact, a motor vehicle subject to NHTSA's jurisdiction. NHTSA's enabling statute, 49 U.S.C. Chapter 301, defines a motor vehicle in pertinent part as "a vehicle driven or drawn by mechanical power and manufactured primarily for use on the public streets, roads, and highways * * *." (49 U.S.C. 30102(a)(6)). Since a bicycle that does not have any motor is a vehicle driven by muscular power instead of mechanical power, such a bicycle is not a "motor vehicle" regulated by NHTSA.

However, the addition of a motor to a bicycle may create a motor vehicle. Whether the motor in fact does so depends upon the extent to which it propels the bicycle to which it has been attached. Some motors are characterized as providing a "power assist" to the bicycle operator. Within this category of motorized bicycle, the agency has decided that if the motor is sufficient to propel the bicycle without any muscular input from the operator, even though at a diminished speed, then the bicycle is driven by mechanical power within the meaning of the definition and is a motor vehicle. On the other hand, if the power assist is insufficient alone to propel the bicycle, and therefore only supplements muscular power (as in helping traverse hilly terrains), the bicycle is not a motor vehicle under NHTSA regulations.

If a motorized bicycle is treated as a motor vehicle, it is classified, in the first instance, as a "motorcycle" for the purposes of the FMVSSs. Under 49 CFR Sec. 571.3(b), a motorcycle is defined as a motor vehicle with motive power having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground. As a motorcycle, a motorized bicycle may also be classified as a "motor driven cycle." A motor-driven cycle is defined as a motorcycle with a motor that produces five brake horsepower or less. Certain FMVSSs, such as the lighting standard, FMVSS No. 108, specify less stringent requirements for motor-driven cycles than for other motorcycles. FMVSS No. 108 allows motor-driven cycles to have a headlamp with a single beam, but requires other motorcycles to have a headlight with upper and lower beams). Other standards specify lesser requirements for motor driven cycles of limited performance, e.g., "a motor-driven cycle whose speed attainable in 1 mile is 30 mph or less * * *" (FMVSS No. 122, establishing motorcycle braking requirements). FMVSS No. 123, which specifies requirements for motorcycle controls and displays, allows a motor-driven cycle the alternative of a rear wheel brake control located on the left handlebar rather than on the right foot control.

Petitioner's Argument

As noted in the Introduction, Whizzer bases its argument for relief on the extremely low level of performance of its motorized bicycle. The petitioner claims that this is essentially a bicycle assisted by a small motor, less than two horsepower, and that while it may be used for very limited transportation, it is not practical for utility purposes other than very short distances. The petition